

What is claimed is:

1. A method for fabricating a capacitor of a semiconductor device, comprising the steps of:
 - 5 (a) forming a conductive silicon layer for a bottom electrode on a substrate;
 - (b) nitridating the conductive silicon layer;
 - (c) oxidizing the nitridated conductive silicon layer;
 - 10 (d) forming a silicon nitride layer on a surface of the oxidized layer;
 - (e) forming a dielectric layer on the silicon nitride layer; and
 - (f) forming a top electrode on the dielectric layer.
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2. The method as recited in claim 1, wherein at the step (c), a native oxide layer is used.
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 3. The method as recited in claim 2, wherein the native oxide layer is formed in a thickness ranging from about 1 Å to about 5 Å.
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 4. The method as recited in claim 3, wherein at the step (b), a thermal treatment process is carried out in an atmosphere of NH₃ gas and at a pressure ranging from about 10 Torr to about 100 Torr.
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 5. The method as recited in claim 4, wherein the silicon nitride layer is formed by using a source of dichlorosilane (DCS) in an atmosphere of NH₃ gas and at a pressure ranging from about 1 Torr to about 10 Torr.
 6. The method as recited in claim 3, wherein the

dielectric layer is comprised of a material having one of a high dielectric constant and being a ferroelectric substance.

5 7. The method as recited in claim 6, wherein the material is one selected from a group of Ta₂O₅, Al₂O₃, HfO₂, (Ba, Sr)TiO₃ (BST), (Pb, Zr)TiO₃ (PZT), (Pb, La) (Zr, Ti)O₃ (PBZT) and Bi₄-XLaXTi₃O₁₂ (BLT).